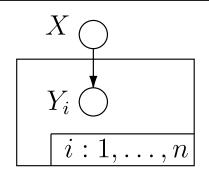
## **DAG** notation and terminology:

- - $X \longrightarrow Y$

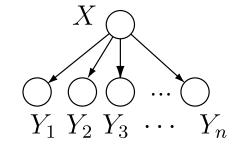
X is a parent of YY is a daughter of X

- $\bigcirc X$  is an unobserved variable
- lacksquare X is an observed variable
- $\bigcirc X$  is a variable with an assumed value (for a prior)

*n*-plates:



a shorthand for:



There are n variables  $Y_i$ , each conditionally independent given X.

Factorization:

$$P(\text{all}) = \prod_{\text{all nodes } i} P(\text{node } i|\text{parents of node } i)$$